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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,686	11/25/2003	Francois Kotian	14XZ129714/130264(GEMS-01	6159

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CANTOR COLBURN, LLP  
55 GRIFFIN ROAD SOUTH  
BLOOMFIELD, CT 06002

EXAMINER

KAO, CHIH CHENG G

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 03/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/721,686

Applicant(s)

KOTIAN ET AL

Examiner

Chih-Cheng Glen Kao

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/25/03, 7/30/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claims 10-12, 22, 26, 32, and 33 are objected to because of the following informalities, which appear to be minor draft errors including grammatical and lack of antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following corrections may obviate their respective objections: (claim 10, line 1, “wherein the means for control being”; replacing “being” with - -is- -), (claim 11, lines 1-2, “wherein that the means for control being programmed”; deleting “that” and replacing “being” with - -is- -), (claim 12, line 1, “wherein the means for control being”; replacing “being” with - -is- -), (claim 22, line 5, “the object with a region”; replacing “the” with - -an- -), (claim 26, line 1, “The method according to claim 15”; changing the dependency of claim 26 from claim 15 to claim 22), (claim 32, line 4, “and means for recording means”; deleting “means” after “recording”), (claim 32, line 9, “the means for support”; replacing “support” with - -supporting the object- -), (claim 32, lines 10-11, “means for processing; the means for control”; inserting - -wherein- - before “the means for control”), (claim 33, line 4, “and means for recording means”; deleting “means” after “recording”), (claim 33, line 9, “the means for support”; replacing “support” with - -supporting the object- -), and (claim 33, lines 10-11, “means for processing; the means for control”; inserting - -wherein- - before “the means for control”).

For purposes of examination, the claims have been treated as such. Appropriate correction is required.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-6, 8-10, 12, 20, 22, 24, 28, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen (US Patent Application Publication 2002/0085681) in view of Hinton et al. (US Patent 5485502).

3. Regarding claims 1, 4, 9, 12, 22, 28, and 32, Jensen discloses a method and device comprising driving a mobile support (fig. 1, #12) along a given movement (paragraph 29) with respect to an object (fig. 1, #22), processing a sequence of images of a region of the object acquired by a means for detection (fig. 1, #34) during movement of the mobile support to reconstitute a 3D model of the region (paragraph 32), driving the mobile support so that it carries out the continuous rotation movement repetitively (fig. 8, #305 and 350) to form a periodically refreshed 3D model of the object (paragraph 53, last 6 lines) around a necessary means for supporting the object (fig. 1, #22), and determining all functional parameters associated with the region of interest, starting from the series of three-dimensional models (paragraph 56, lines 1-4).

However, Jensen does not disclose movement with respect to a means for supporting an object.

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Hinton et al. teaches movement with respect to a means for supporting an object (col. 2, lines 15-19, and fig. 1, #40).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method and device of Jensen with the movement of Hinton et al., since one would be motivated to make such a modification to prevent damage in collisions (title) as implied from Hinton et al.

4. Regarding claims 2, 10, and 24, Jensen further discloses the mobile support driven along a sequence of half rotations, alternately in one direction and in the other direction (paragraph 55) around the necessary means for supporting the object (fig. 1, #22).

5. Regarding claims 5, 6, 8, 20, and 30, Jensen further discloses a sequence of 2D images (claim 6) continuously memorized or stored, on a sliding window, corresponding to a number of images necessary for reconstitution of a 3D model (paragraph 52, lines 11-13), and processing is applied for continuous reconstitution of a 3D model on this sliding window (fig. 8, #345 or 350).

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. as applied to claim 12 above, and further in view of Deucher et al. (US Patent 5220588).

Jensen as modified above suggests a device as recited above.

However, Jensen does not disclose electrical power with commutator/brush type means.

Deucher et al. teaches electrical power with commutator/brush type means (abstract, line 1).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Jensen as modified above with the brushes of Deucher et al., since one would be motivated to make such a modification for longer device life (col. 2, lines 56-57) as shown by Deucher et al.

7. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. and Deucher et al. as applied to claims 12 and 13 above, and further in view of Noegel et al. (US Patent Application Publication 2002/0085682).

Jensen as modified above suggests a device as recited above.

However, Jensen does not disclose optical connecting means or a radio frequency link through which means for control and/or means for processing exchange data with a source and/or means for detecting.

Noegel et al. teaches optical connecting means or a radio frequency link through which means for control and/or means for processing exchange data with a source and/or means for detecting (paragraph 37).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Jensen as modified above with the means for exchanging data of Noegel et al., since one would be motivated to make such a modification to simplify the data transmission interface (paragraph 15) as shown by Noegel et al.

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8. Claims 18, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. and Deucher et al. as applied to claims 12 and 13 above, and further in view of Noegel et al. and Pearson et al. (US Patent 6301324).

Jensen as modified above suggests a device as recited above. See, in particular, paragraphs 7 (for claims 18 and 19) and 5 (for claim 21) above.

However, Jensen does not disclose brush/commutator means.

Pearson et al. teaches brush/commutator means (col. 4, line 67, to col. 5, line 4).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Jensen as modified above with the brush of Pearson et al., since one would be motivated to make such a modification for efficiency and cost effectiveness (col. 2, lines 24-26) as implied from Pearson et al.

9. Claims 23, 25, 29, 31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. as applied to claim 22 above, and further in view of Cenic et al. ("Dynamic CT Measurement of Cerebral Blood Flow: A Validation Study").

Jensen as modified above suggests a method and device as recited above. See, in particular, paragraphs 4 (for claim 25), 3 (for claims 29 and 33) and 5 (for claim 31) above.

However, Jensen does not disclose choosing a region of interest at a blood vessel, determining an arterial input function at a chosen region of interest, deconvoluting a signal with an intensity variable with time using the arterial input function, and determining a residual impulse function to calculate functional parameters.

Cenic et al. teaches choosing a region of interest at a blood vessel, determining an arterial input function at a chosen region of interest (page 65, col. 2, line 14), deconvoluting a signal with an intensity variable with time using the arterial input function (page 65, col. 2, lines 13-15), and determining a residual impulse function to calculate functional parameters (page 65, col. 2, "R(t)").

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method and device of Jensen as modified above with the choosing, determining, deconvoluting, and determining of Cenic et al., since one would be motivated to make such a modification to increase accuracy of measurement (title and conclusion) as implied from Cenic et al.

10. Claims 3, 7, 11, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. and Cenic et al. as applied to claims 1, 9, 22, and 23 above, and further in view of Kruger et al. (US Patent 4577222).

Jensen as modified above suggests a method and device as recited above. See paragraph 5 for claim 7.

However, Jensen does not disclose a mobile support driven so as to apply a repetitive conical movement of revolution to an axis passing through a focal point of a source and through a center of a means for detection.

Kruger et al. teaches a mobile support (fig. 1, #15) driven so as to apply a repetitive conical movement of revolution (fig. 2, and col. 4, lines 9-15) to an axis passing through a focal point of a source (fig. 1, #110) and through a center of a means for detection (fig. 1, #120).



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It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method and device of Jensen as modified above with the conical movement of Kruger et al., since one would be motivated to make such a modification to obtain a better view (col. 1, lines 38-43) as implied from Kruger et al.

### *Conclusion*

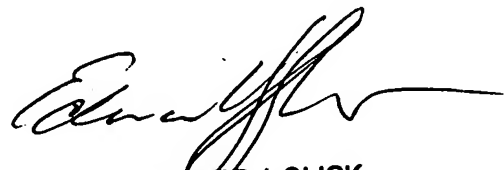
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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EDWARD J. GLICK  
SUPERVISORY PATENT EXAMINER